

REMARKS

Reconsideration and allowance is kindly requested in consideration of the following remarks and amendments set forth in this response.

Claims 1-5 and 7-34 are currently pending in connection with the present application. Claims 1, 23 and 34 are independent claims. By this amendment, claims 1-5, 7, 8, 10-15, 17-20, 23-25 and 27-32 have been amended. Claim 6 has been canceled. Applicants traverse the rejections set forth in the Office Action dated October 17, 2005.

Description of an Example Embodiment.

Fig. 1 illustrates an example embodiment of the present invention, where control information 14 and data packet 10 are transmitted over parallel channels dedicated to data and control information, respectively. The data packet 10 is divided into data subpackets 12-n (1, 2, 3 ...). Control information is **transmitted redundantly on the control channel**, while data is transmitted in parallel on the data channel. Each data subpacket 12-n is transmitted over separate time slots and of the data channel. By redundantly transmitting the control information during the time slots associated with each data packet, it is possible to begin decoding the transmission in the data packets prior to the end of the data subpacket transmission. Furthermore, since the entire communication system relies on proper transmission of the control information, the improved reliability of the redundant control information transmission results in a reduction of communication delays and permits quicker decoding of the data packets.

PRIOR ART REJECTIONS

35 U.S.C. § 103(a) Ueno/Teder Rejection

Claims 1 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno (U.S. Patent No. 6,671,269) in view of Teder (U.S. Patent No. 5,544,156 A). Applicant respectfully traverses this rejection.

Ueno is directed to a single frequency transmission, where a sequence of data packets is converted to a series of time slotted data transmissions wherein every sequence of 6 time slots is preceded by a control block.¹

The Examiner admits that Ueno does not teach “the data channel being parallel to the control channel” as recited in amended, independent claim 1, and relies on Teder to make up for this deficiency.

Teder teaches using a separate control channel and a separate data channel for communications. Teder teaches that the control channel, which is transmitted in parallel with the data channel, must be demodulated prior to demodulation of the data field to provide phase and amplitude information for coherent data detection.

Applicants submit that neither Ueno nor Teder teach or suggest “transmitting the first control information ... **repeatedly over a plurality of time slots of a control channel ... and ... the data channel being parallel to the control**” as recited in amended independent claim 1. By comparison, Ueno only discloses a single information channel, wherein a single control block is transmitted between a plurality of data packets. Teder only teaches using a data channel and a control channel and does not distinguish between a data channel and a control channel. Therefore, neither Ueno nor Teder teach or suggest repeatedly sending the first control

¹ Ueno, Figs. 8 and 11-13.

information, or the benefits thereof, (e.g., it is possible to increase the reliability of the control information transmission without increasing the overhead and frame transmission delays).

Lack of Motivation to Combine References

The alleged motivation cited by the Examiner for combining Ueno and Teder to reject independent claims 1 and 23 is that “it would provide coherent detection without introducing additional symbols or signals”.

Applicants assert that the Examiner’s alleged motivation is based upon Applicants’ own disclosure and is therefore an improper use of hindsight. The Examiner merely viewed the present application, and attempted to select prior art containing a data channel and control channel, without citing specific evidence of motivation to combine the references, other than providing conclusory statements regarding the motivation and obviousness. Accordingly, absent such motivation, a prima facie case of obviousness under 35 U.S.C. §103(a) has not been established and the rejection must be withdrawn.

Applicants direct the Examiner’s attention to two recent cases decided by the Court of Appeals for the Federal Circuit (CAFC), In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.Cir. 1999) and In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000). Both of these cases set forth very rigorous requirements for establishing a prima facie case of obviousness under 35 U.S.C. §103(a).

To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the Applicants. The motivation suggestion or teaching may come explicitly from one of the following:

- (a) the statements in the prior art (patents themselves)

- (b) the knowledge of one of ordinary skill art, or in some cases,
- (c) the nature of the problem **to be solved**.

See Dembiczak 50 USPQ at 1614 (Fed.Cir. 1999).

In order to establish a prima facie case of obviousness under 35 U.S.C. §103(a), the Examiner must provide particular findings as to why the two pieces of prior art are combinable. See Dembiczak 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence".

Neither Ueno nor Teder teach or suggest combining their features to arrive at independent claim 1; nor does the Examiner cite any particular passage to provide evidence that such a combination would be obvious to one of ordinary skill in the art. On the contrary, the disclosed references seek to overcome differing problems and therefore do not constitute an obvious combination.

Ueno is directed to a method for reliable transmission of data on a single data stream. Teder is directed to transmission of data using parallel data channels. Both references provide uniquely viable solutions to different problems, while at the same time failing to recognize the problems solved by Applicants' present application.

Furthermore, in light of Ueno's solution, there is no need to utilize two channels for a single data transmission. Likewise, in light of Teder, there is no need to subdivide the packets into separate time slots.

Relying on obvious design choice as a reason for combining teachings of the various references is again not the proper standard for obviousness. If the Examiner is relying on personal knowledge to support a finding of what is known in the art, the Examiner must provide an Affidavit or Declaration setting forth specific factual statements and explanation to support

the finding. See 37 CFR 1.104(d)(2) and MPEP 2144.03(c). In view of the above arguments, Applicants assert that the Examiner has not established the required motivation for combining the teachings of Ueno and Teder and therefore fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a).

In view of the above arguments, Applicants assert that the Examiner has not established the required motivation for combining the teachings of Ueno and Teder and therefore fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a).

Accordingly, at least for the reasons set forth above, Applicants submit that claim 1 is patentable. For similar reasons, Applicants submit that claim 23 is patentable (although claims 1 and 23 should be interpreted solely based upon the limitations set forth therein). Furthermore, Applicants submit that claims 2-5, 7-22 and 24-33 are patentable at least because they depend on patentable, amended, independent claims 1 or 23.

35 U.S.C. § 103(a) Ueno/APA Rejection

Claims 1 and 23 stand further rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Applicants' admitted prior art (APA). Applicants respectfully traverse this rejection. As set forth in the prior section, Ueno does not explicitly disclose "the data channel being parallel to the control channel" as recited in amended, independent claim 1.

Applicants' admitted prior art discloses transmitting control information on a control channel and data information on a data channel.

Applicant submits that neither Ueno nor APA teach, suggest or render obvious "transmitting the first control information ... repeatedly over a plurality of time slots of a control channel" as recited in amended, independent claim 1. As set forth above, Ueno fails to teach

both a control channel and a data channel. Neither Ueno nor APA prior art teach, suggest or render obvious repeatedly transmitting the first control information over a control channel, as disclosed in amended, independent claim 1.

Lack of Motivation or Combine

The alleged motivation cited by the Examiner for combining Ueno and APA to reject independent claims 1 and 23 is that “it would allow the control information transmission to be controlled independently of the data packet transmission to increase its reliability”.

Applicants assert that the Examiner’s alleged motivation is based upon Applicants’ own disclosure and is therefore an improper use of hindsight. The Examiner merely viewed the present application, and combined the prior art without citing specific evidence of motivation to combine the references, other than providing conclusory statements regarding the motivation and obviousness. Accordingly, absent such motivation, a prima facie case of obviousness under 35 U.S.C. §103(a) has not been established and the rejection must be withdrawn.

In order to establish a prima facie case of obviousness under 35 U.S.C. §103(a), the Examiner must provide particular findings as to why the two pieces of prior art are combinable. See Dembiczak, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not “evidence”.

Neither Ueno nor APA teach or suggest combining their features to arrive at independent claim 1; nor does the Examiner cite any particular passage to provide evidence that such a combination would be obvious to one of ordinary skill in the art. On the contrary, the disclosed references seek to overcome differing problems and therefore do not constitute an obvious combination.

Ueno is directed to a method for reliable transmission of data on a single data stream. APA is directed to transmission of data using parallel data channels. Both references provide uniquely viable solutions to different problems, while at the same time failing to recognize or suggest the problems solved in Applicants' present application.

Relying on obvious design choice as a reason for combining teachings of the various references is again not the proper standard for obviousness. If the Examiner is relying on personal knowledge to support a finding of what is known in the art, the Examiner must provide an Affidavit or Declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2) and MPEP 2144.03(c). In view of the above arguments, Applicants assert that the Examiner has not established the required motivation for combining the teachings of Ueno and APA and therefore fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a).

Accordingly, Applicants submit that claim 1 is patentable. For similar reasons, Applicant submits that claim 23 is patentable (although claims 1 and 23 should be interpreted solely based upon the limitations set forth therein). Furthermore, Applicants submit that claims 2-5, 7-22 and 24-33 are patentable at least because they depend on patentable, amended, independent claims 1 or 23.

35 U.S.C. § 103(a) Ueno/Teder/Proctor Rejection

Claim 2 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder, and further in view of Proctor, Jr. (U.S. PG Pub. No. 2002/00131358 A1).

The Examiner admits that Ueno fails to teach a manner of decoding, as recited in Applicants' claim 2. Applicant submits that claim 2 is patentable at least because it depends on

patentable, amended, independent claim 1, and Proctor fails to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully requests that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Ishikawa Rejection

Claim 3 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and further in view of Ishikawa (U.S. Patent No. 6,084,911).

The Examiner admits that Ueno fails to teach “channel coding the data packet” as recited in Applicants’ claim 3.

Applicants submit that claim 3 is patentable because it depends on patentable, amended, independent claim 1, and Ishikawa fails to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Lewis Rejection

Claims 4 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder, and further in view of Lewis (U.S. Patent No. 6,601,209).

The Examiner admits that Ueno fails to teach “channel coding the data packet” as recited in claim 4 and “a channel coded prior transmission as recited in claim 16.

Applicants submit that claims 4 and 16 are patentable at least because they depend on patentable, amended, independent claim 1, and Lewis fails to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Obviousness Rejection

Claims 5 and 6 stand rejected as obvious under 35 U.S.C. §103(a) over Ueno in view of Teder.

The Examiner admits that Ueno fails to teach that the control channel time slots and the data time slots are time synchronized to each other, as recited in claims 5 and 6.

Applicants submit that claims 5 and 6 are patentable because they depends on patentable, amended, independent claim 1 and the established teachings in the art fail to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

Furthermore, relying on common knowledge or common sense of a person of ordinary skill in the art without any specific hint or suggestion of this in a particular reference is not a proper standard for reaching the conclusion of obviousness. See In re Sang Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002). If the Examiner is relying on personal knowledge to support a finding of what is known in the art, **the Examiner must provide an Affidavit or Declaration** setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2) and MPEP 2144.03(c).

35 U.S.C. § 103(a) Ueno/Teder/Carlsson Rejection

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and in further view of Carlsson (U.S. Patent No. 6,603,978).

The Examiner admits that Ueno does not teach “wherein the control channel and the data channel are not time synchronized to each other” as recited in claim 7.

Applicants admit that claim 7 is patentable because it depends on patentable, amended, independent claim 1, and Carlsson fails to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Scholefield Rejection

Claims 8, 9, 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder, and further in view of Scholefield (U.S. Patent No. 5,742,592).

The Examiner admits that Ueno fails to teach “a second control information associated with a second plurality of packets transmitted over a control channel” and “a second plurality of packets over a data channel” as recited in Applicants claims 8 and 9, respectively.

Applicants submit that claims 8 and 9 are patentable because they depend on patentable, amended, independent claim 1, and Scholefield fails to make up for the deficiencies discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

Claims 11 and 12 are allowable at least because none of Ueno, Teder or Scholefield teach or suggest the features of claim 1 described in detail above. Withdrawal of the rejection of claims 11 and 12 is kindly requested.

35 U.S.C. § 103(a) Ueno/Teder/Scholefield/Proctor Rejection

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Scholefield and in further view of Proctor.

The Examiner admits that neither Ueno nor Scholefield explicitly disclose a manner of decoding, as recited in claim 10.

Applicant submits that claim 10 is patentable because it depends on patentable, amended, independent claim 1, and Proctor fails to make up for the deficiency discussed above with respect to Ueno, Teder and/or Scholefield. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Nakano Rejection

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and in further view of Nakano (U.S. Patent No. 5, 206,858).

The Examiner admits that Ueno does not explicitly disclose a “new/continuation side to indicate whether the associated one with a plurality of packets is a beginning of a new data packet transmission or a continuation of a data packet transmission in progress” as recited in claim 13.

Applicants submit that claim 13 is patentable because it depends on patentable, amended, independent claim 1, and Nakano fails to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejections be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Obviousness Rejection

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder, and further in view of well established teachings in the art.

The Examiner admits that Ueno fails to teach “wherein the flag is set to one and a flag is set to zero” as recited in Applicants’ claim 18.

Applicants submit that claim 18 is patentable because it depends on patentable, amended, independent claim 1, and the established teachings in the art fail to make up for the deficiency discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

Furthermore, relying on common knowledge or common sense of a person of ordinary skill in the art without any specific hint or suggestion of this in a particular reference is not a proper standard for reaching the conclusion of obviousness. See *In re Sang Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). If the Examiner is relying on personal knowledge to support a finding of what is known in the art, **the Examiner must provide an Affidavit or Declaration** setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2) and MPEP 2144.03(c).

35 U.S.C. § 103(a) Ueno/Teder/Nakano/Obviousness Rejection

Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Nakano, and further in view of well established teachings in the art.

The Examiner admits that Ueno fails to teach “a flag transmitted when one of the plurality of data packets is a first data packet or a last data packet” as recited in Applicants’ claim 19.

Applicants submit that claim 19 is patentable because it depends on patentable, amended, independent claim 1, and the established teachings in the art fail to make up for the deficiency

discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

Furthermore, relying on common knowledge or common sense of a person of ordinary skill in the art without any specific hint or suggestion of this in a particular reference is not a proper standard for reaching the conclusion of obviousness. See *In re Sang Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). If the Examiner is relying on personal knowledge to support a finding of what is known in the art, the Examiner must provide an Affidavit or Declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2) and MPEP 2144.03(c).

35 U.S.C. § 103(a) Ueno/Teder/Moulsley Rejection

Claim 21, 22, 31, 32 and 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder, and further in view of Moulsley (U.S. PG Publication No. 2004-0082357).

The Examiner admits that Ueno fails to teach “that the control channel is power controlled” and “receiving control channel quality feedback” as recited in Applicants’ claims 21 and 32, and 22 and 33, respectively.

Applicants submit that claims 21, 22, 31-33 are patentable because they depend on amended, independent claims 1 and 23; and Moulsley fails to make up for the deficiencies discussed above with respect to Ueno and Teder. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Moulsley/Scholefield Rejection

Claims 25 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Moulsley, and further in view of Scholefield.

The Examiner admits that Ueno nor Moulsey teach “a second control information associated with the second plurality of packets of the control channel and the associated second plurality of packets over a data channel” as recited in Applicants’ claims 25 and 26. Applicants submit that claims 25 and 26 are patentable because they depends on patentable, amended, independent claim 23 and Scholefield fails to make up for the deficiencies discussed above with respect to Ueno, Teder and/or Moulsley. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Moulsley/Nakano Rejection

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Moulsley, and further in view of Nakano.

The Examiner admits that neither Ueno nor Moulsley teach “a new/continuation side to indicate whether the associated one of the plurality of packets is the beginning of a new data packet transmission or a continuation of a data packet transmission in progress” as recited in claim 27.

Applicants submit that claim 27 is patentable because it depends on patentable, amended, independent claim 23, and Nakano fails to make up for the deficiencies discussed above with respect to Ueno, Teder and/or Moulsley. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Moulsley/Scholefield/Bergenwall Rejection

Claim 28 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Moulsley, and further in view of Scholefield and Bergenwall (U.S. PG Publication No. 2002-0126710).

The Examiner admits that neither Ueno nor Moulsley disclose “a timeslot of a communication channel parallel to the data or control channel” as recited in claim 28.

Applicants submit that claim 28 is patentable because it depends on patentable, amended, independent claim 23, and Bergenwall fails to make up for the deficiencies discussed above with respect to any of Ueno, Teder, Moulsley and/or Scholefield. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Moulsley/Lewis Rejection

Claim 29 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Moulsely, and further in view of Lewis.

The Examiner admits that neither Ueno nor Moulsely explicitly teaches “a means for channel coding” as recited in Applicants’ claim 29.

Applicants submit that claim 29 is patentable because it depends on patentable, amended, independent claim 23, and Lewis fails to make up for the deficiencies discussed above with respect to Ueno, Teder and/or Moulsley. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

35 U.S.C. § 103(a) Ueno/Teder/Moulsley/Bergenwall Rejection

Claim 30 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of Teder and Moulsley, and further in view of Bergenwall. The Examiner admits that Ueno and Moulsley fail to teach “a user identity channel” as recited in Applicants’ claim 30. Applicants submit that claim 30 is patentable because it depends on patentable, amended, independent claim 23, and Bergenwall fails to make up for the deficiencies discussed above with respect to any of Ueno, Teder and/or Moulsley. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-5, and 7-34 in connection with the present application is earnestly solicited.

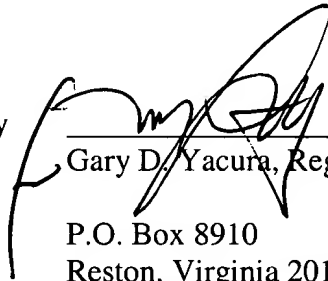
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By

 45,274

Gary D. Yacura, Reg. No. 35,416
P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

GDY/NMZ:lak